

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-17 (cancelled).

18 (currently amended). A method of treating a patient having Type 1 diabetes mellitus (T1DM) or at risk of developing T1DM, which comprises administering to the patient ~~a peptide having the sequence~~ one or more peptides selected from the group consisting of QPLALEGSLQK (SEQ ID NO: 9), said peptide being optionally and peptides extended therefrom by one or more aminoacids bordering ~~said sequence in the consensus sequence SEQ ID NO:9 in the peptide~~  
GGGPGAGSLQPLALEGSLQKRGIVEQ (SEQ ID NO: 10).

19 (currently amended). A method according to claim 18, ~~in which the peptide has a sequence consisting essentially of a sequence~~ which comprises administering one or more peptides selected from the group consisting of GGGPGAGSLQPLALEGSLQK (SEQ ID NO: 4), GSLQPLALEGSLQKRGIV (SEQ ID NO: 5), QPLALEGSLQKRGIVEQ (SEQ ID NO: 6), and GGGPGAGSLQPLALEGSLQKRGIVEQ (SEQ ID NO: 10).

20 (currently amended). A method according to claim 18, in which the peptide ~~has the sequence consisting essentially of~~ GGGPGAGSLQPLALEGSLQK (SEQ ID NO: 4) is administered.

21 (currently amended). A method according to claim 18, in which the peptide ~~has the sequence consisting essentially of~~ GSLQPLALEGSLQKRGIV (SEQ ID NO: 5) is administered.

22 (currently amended). A method according to claim 18, in which the peptide ~~has the sequence consisting essentially of~~ QPLALEGSLQKRGIVEQ (SEQ ID NO: 6) is administered.

23 (currently amended). A method according to claim 18, in which the peptide ~~has the sequence consisting essentially of~~ GGPGAGSLQPLALEGSLQKRGIVEQ (SEQ ID NO: 10) is administered.

24 (currently amended). A method according to claim 18 or 19, in which the ~~peptide or a selected peptide is used in combination~~ administered together with one or more peptides ~~having a sequence or sequences~~ selected from the group consisting of LAKEWQALCAYQAEPNTCATAQGEGNIK (SEQ ID NO: 11), KLKVESSPSRSDYINASPIIEHDP (SEQ ID NO: 12), and SFYLKNVQTQETRRLTQFHF (SEQ ID NO: 13).

25 (currently amended). A method according to claim 18 or 19, in which the ~~peptide or a selected peptide is used in combination with a peptide or peptides having a sequence or sequences~~ administered together with a peptide or peptides selected from the group consisting of

- a. IA-2 752-75 (SEQ ID NO : 12)
- b. IA-2 853-72 (SEQ ID NO : 13)
- c. IA-2 709-36 (SEQ ID NO : 11)
- d. IA-2 752-75 (SEQ ID NO : 12) and IA-2 853-72 (SEQ ID NO : 13)
- e. IA-2 709-36 (SEQ ID NO : 11) and IA-2 752-75 (SEQ ID NO : 12)
- f. IA-2 709-36 (SEQ ID NO : 11) and IA-2 853-72, (SEQ ID NO : 13) and
- g. IA-2 709-36 (SEQ ID NO : 11) and IA-2 752-75 (SEQ ID NO : 12) and IA-2 853-72 (SEQ ID NO : 13).

26 (currently amended). A method of treatment or prevention of Type 1 diabetes according to claim 18 or 19, ~~in which the peptide or combination of peptides is~~ the selected peptide or peptides being administered by parenteral or oral or topical routes, including intradermal, subcutaneous or intravenous injection, or nasally ~~or orally~~ or epicutaneously.

27 (currently amended). A method according to claim 26, in which the peptide or each peptide ~~in a combination of peptides~~ is administered in an amount of up to 1mg ~~or more~~ per single dose.

28 (currently amended). A method according to claim 27, in which the peptide or each peptide ~~in a combination of peptides~~ is administered in an amount of from 0.5 to 500 micrograms ~~or more~~ per single dose.

29 (previously presented). A method according to claim 28, in which a single dose contains from 5 to 250  $\mu\text{g}$  of the, or each, peptide.

30 (withdrawn). A method according to claim 18 or 19, in which the peptide or combination of peptides is administered in conjunction with a tolerance-promoting adjuvant or tolerance promoting cells.

31 (withdrawn). A method of monitoring the results of treatment according to claim 18 or 19, which comprises the following steps:-

- a. extracting the patient's peripheral blood mononuclear cells
- b. culturing these cells with any of the peptides or peptide combinations specified in claim 18 or 19,
- c. applying a cytokine ELISPOT analysis to the cultured cells in order to quantitate the cellular production of cytokines.

32 (withdrawn). A method according to claim 31, in which said cytokines are selected from the group consisting of interferon- $\gamma$  and interleukin-10.

33 (withdrawn). A method according to claim 31, in which the patient's immunological tolerance to beta cells is demonstrated by the presence of an increased number of interleukin-10 producing cells and a reduced number of interferon- $\gamma$  producing cells, compared to those present prior to treatment.

34 (currently amended). A An isolated peptide having a sequence consisting essentially of a sequence selected from the group consisting of GGGPGAGSLQPLALEGSLQK (SEQ ID NO: 4), GSLQPLALEGSLQKRGIV (SEQ ID NO: 5), QPLALEGSLQKRGIVEQ (SEQ ID NO: 6) and GGGPGAGSLQPLALEGSLQKRGIVEQ (SEQ ID NO: 10).

35 (currently amended). The isolated peptide having a sequence consisting essentially of GGGPGAGSLQPLALEGSLQK (SEQ ID NO: 4).

36 (currently amended). The isolated peptide having the sequence consisting essentially of GSLQPLALEGSLQKRGIV (SEQ ID NO: 5).

37 (currently amended). The isolated peptide having the sequence consisting essentially of QPLALEGSLQKRGIVEQ (SEQ ID NO: 6).

38 (currently amended). The isolated peptide having the sequence consisting essentially of GGGPGAGSLQPLALEGSLQKRGIVEQ (SEQ ID NO: 10).

39 (currently amended). A combination of peptides composition comprising a first peptide having the sequence selected from the group consisting of QPLALEGSLQK (SEQ ID NO: 9), said peptide being optionally and peptides extended therefrom by one or more aminoacids bordering said sequence in the consensus sequence SEQ ID NO:9 in the peptide GGGPGAGSLQPLALEGSLQKRGIVEQ (SEQ ID NO: 10), said first

~~peptide being combined with one or more peptides having a sequence or sequences~~  
composition also comprising one or more peptides selected from the group consisting of  
LAKEWQALCAYQAEPNTCATAQGEGNIK (SEQ ID NO: 11),  
KLKVESSPSRSDYINASPIIEHDP (SEQ ID NO: 12), and SFYLKNVQTQETRRTLQFHF  
(SEQ ID NO: 13).

40 (currently amended). A combination of peptides composition comprising a  
first peptide according to claim 34, ~~in combination with one or more peptides having a~~  
~~sequence or sequences~~ and also comprising a peptide or peptides selected from  
LAKEWQALCAYQAEPNTCATAQGEGNIK (SEQ ID NO: 11).  
KLKVESSPSRSDYINASPIIEHDP (SEQ ID NO: 12), and SFYLKNVQTQETRRTLQFHF  
(SEQ ID NO: 13).

41 (currently amended). A combination of peptides composition according to  
claim 40, comprising a first peptide according to claim 34 ~~in combination with a peptide~~  
~~or peptides having a sequence or sequences~~ and also comprising a peptide or peptides  
selected from the group consisting of

- h. IA-2 752-75 (SEQ ID NO : 12)
- i. IA-2 853-72 (SEQ ID NO : 13)
- j. IA-2 709-36 (SEQ ID NO : 11)
- k. IA-2 752-75 (SEQ ID NO : 12) and IA-2 853-72 (SEQ ID NO : 13)
- l. IA-2 709-36 (SEQ ID NO :11) and IA-2 752-75 (SEQ ID NO : 12)
- m. IA-2 709-36 (SEQ ID NO :11) and IA-2 853-72, (SEQ ID NO : 13), and

n. IA-2 709-36 (SEQ ID NO : 11) and IA-2 752-75 (SEQ ID NO :12) and IA-2 853-72 (SEQ ID NO : 13).

42 (canceled).

43 (canceled).

44 (currently amended). A pharmaceutical composition comprising a peptide according to claim 42 34, in which the peptide or each peptide is conjugated or otherwise combined with a tolerance-promoting adjuvant or tolerance promoting cells.

45 (currently amended). A pharmaceutical composition comprising a peptide combination according to claim 43 39 or 40, in which the peptide or each peptide is conjugated or otherwise combined with a tolerance-promoting adjuvant or tolerance promoting cells.

46 (currently amended). A diagnostic method or kit for diagnosis of, or determination of a predisposition to, Type 1 diabetes, comprising a peptide or ~~peptide combination~~ composition according to claim 34, 39 or 40.

47 (currently amended). A diagnostic method or kit for diagnosis of, or determination of a predisposition to, Type 1 diabetes, comprising peptide ~~combination a~~ composition according to claim 41.

48 (new). A method of treating a patient having Type 1 diabetes mellitus (T1DM) or at risk of developing T1DM, which comprises administering to the patient one or more peptides selected from the group consisting of GGGPGAGSLQPLALEGSLQK (SEQ ID NO: 4), GSLQPLALEGSLQKRGIV (SEQ ID NO: 5), QPLALEGSLQKRGIVEQ (SEQ ID NO: 6) and GGGPGAGSLQPLALEGSLQKRGIVEQ (SEQ ID NO: 10).